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FITNESS AND THE OBESITY PARADOX IN CARDIAC REHABILITATION: HOW DOES WEIGHT LOSS FACTOR IN?

Moderated Poster Contributions
Prevention Moderated Poster Theater, Poster Hall, Hall C
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Session Title: Obesity Management in 2017: Weighing the Issues
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Background: Weight loss (WL) confers benefits to insulin resistance and cardiovascular (CV) events, and is a hallmark of most successful exercise programs, but WL in a chronic disease population can also be a sign of progressive frailty. Recent work in the obesity paradox finds that the protective associations of body mass index (BMI) and body fat are inversely related to cardiorespiratory fitness (CRF). We explore the mortality effects of WL in a population stratified by degree of increase in CRF (ΔCRF).

Methods: 1110 subjects with stable coronary heart disease (CHD) referred for cardiac rehabilitation (CR) between 01/2000 and 06/2013 with a mean follow up of 6.3 years were stratified based on median ΔCRF and median WL. Mortality in this cohort was analyzed with respect to change in weight, BMI, initial CRF, age, ejection fraction, and sex.

Results: The four groups after stratification were: High WL and ΔCRF (N=68), Low WL and ΔCRF (N=632), High WL and Low ΔCRF (N=140), Low WL and High ΔCRF (N=328). Both groups with low ΔCRF had a higher mortality (Low WL HR 3.32, p=0.04, High WL HR 3.9, p=0.02) in comparison with the high WL and high ΔCRF group. When comparing WL within ΔCRF sub-groups, the mortality differences were negligible in both the high ΔCRF sub-groups (low WL 7.8%, high WL 4.5%, p = 0.3) and low ΔCRF sub-groups (low WL 18.9%, high WL 19.9%; p = 0.8)

Conclusions: Despite WL playing a prominent role in reducing morbidity in healthy populations, the associations of WL and mortality across changes in CRF in a CHD population are negligible. This may suggest that benefits derived in the healthy population are the result of increased CRF rather than changes in weight and WL may be a barometer of increases in CRF rather than an independent factor in disease modification